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Review

Developmental Biology of Fern Gametophytes by Valayamghat Raghavan. Developmental and Cell Biology Series, Cambridge University Press, New York. 1989. 361 pp. ISBN 0–521–33–22.

The purpose of this series is to provide relatively short, critical accounts of areas of developmental and cell biology. They are aimed at an audience of advanced undergraduates and graduate students and for biologists who attempt to keep current in related fields that might impact their particular research emphasis. This work meets that purpose for its defined audience, and then some. The distillation of information contained in the references cited on 49 pages of bibliography supports the notion that fern gametophytes provide convenient organisms to study significant problems in biology. The spore and gametophyte plant provide many opportunities to develop model systems to explore basis phenomena in germination, planar growth, initiation of sexual growth from vegetative growth, and gametogenesis, as well as pheromones, breeding and mating systems, apogamy, and apospory. In the first nine chapters, the emphasis is on the morphological, cytological, physiological, biochemical, and molecular changes that occur during the gametophyte generation. In the last five chapters phenomena with evolutionary implications of interest to geneticists, ecologists, and population biologists are treated. This book is complementary to an earlier book in this series by Raghavan on Embryogenesis in Angiosperms: A Developmental and Experimental Study. Individually and together, they constitute a significant compilation of research on the haploid generation and early development of the sporophyte.—JAMES H. PECK, Department of Biology, University of Arkansas at Little Rock, Little Rock, AR 72204.